

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/396,888 09/16/99 RIVAS

V

TM02/0815

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EXAMINER

GRIER, L

ART UNIT

PAPER NUMBER

2644

DATE MAILED:

08/15/01

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)
	09/396,888	RIVAS ET AL.
	Examiner Laura A Grier	Art Unit 2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-29 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13 and 15-29 is/are rejected.
- 7) Claim(s) 14,26 and 27 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> .	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. **Claims 24-29** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. **Claims 24-29** recites the limitation "the apparatus" in line 1, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. (U. S. Patent No. 5617868) in view of Lewyn (U. S. Patent No. 4260951) and further in view of Vogt et al. (U. S. Patent No. 5606743).

Regarding **claim 1**, Harada et al. discloses a pulse wave detecting apparatus. Harada et al.'s disclosure teaches the detection of pulse wave produced by an arterial vessel of a patient which indicates heart monitoring (col. 5, lines 5-15 and col. 6, lines

13-17), wherein the apparatus comprises a lens frame (figure 1 – reference 10) which constitutes a pair of glasses; an array of pressure sensing elements (col. 5, lines 44-46). However, Harada et al. fails to specifically disclose a plurality of lighting emitting diodes on the glasses, a plurality of photosensors on the glasses, electronic circuitry on the glasses, and a power source (all the preceding element, hereinafter, are referred to as "monitoring components"). The examiner maintains that such monitoring components were well known in the art.

Regarding the monitoring component, in a similar field of monitoring/measuring heart functions, Lewyn discloses a measurement having pole zero cancellation. Lewyn's disclosure comprises the use of a pulse (LED) light emitting diode and a photodiode, electronic circuitry and a power supply (figure 1).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada et al. by providing such monitoring components, wherein a plurality of LEDs replace the array of pressure sensor along with a plurality of photodiodes to define/represent photosensors for transmitting light pulses and for receiving light pulses reflecting from the surface of the users body (temple), and wherein the electronic circuitry and power supply further enables adequate functions of the glasses for monitoring and/or measuring a users heart conditions.

Further, Vogt et al. discloses that such monitoring components such as power supply and electronic circuitry are found on or in the structure of a pair of glasses (figures 1-2, abstract, and col. 4, lines 3-33).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada et al. and Lewyn combined by incorporating such monitoring components on a pair of glasses for the purpose of providing convenience to the user for monitoring his or her heart conditions under particular circumstances and/or activities.

Regarding **claim 2**, Harada et al., Lewyn and Vogt et al. (hereinafter, referred to as "Harada") discloses everything claimed as applied above (see claim 1). Lewyn further discloses a power supply as a battery (col. 5, lines 66-68).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by providing a battery for the power source for the purpose of providing ample voltage to the electronic circuitry of the apparatus for enabling adequate capabilities of the monitoring the user's heart condition as convenience in size.

Regarding **claim 3**, Harada discloses everything claimed as applied above (see claim 1). Vogt et al. further discloses a power supply as at least one solar cell with a solar panel (col. 7, lines 20-33).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by providing a solar cell for the power source for the purpose of utilizing the readily available solar energy and converting it into electrical energy, because of which the invention of Harada can be modified to be energy efficient.

Regarding **claim 8**, Harada discloses everything claimed as applied above (see claim 1). Lewyn discloses a display for indicating the sensed condition of the user (figure 1-reference 30 and col. 5, lines 63-65). Further, Vogt discloses a display on the glasses (col. 8, lines 17-22).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by providing a display for indicating the sensed condition of the user.

Regarding **claim 9**, Harada discloses everything claimed as applied above (see claim 1). Lewyn discloses a display for indicating the sensed condition of the user (figure 1-reference 30 and col. 5, lines 63-65).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by providing a display for indicating to the user sensed condition such as the pulse rate and heart rate.

Regarding **claim 6**, Harada teaches a transmitter for transmitting to a remote receiver (col. 11, lines 37-49).

6. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. in view of Lewyn and further in view of Vogt et al.

Regarding **claim 11**, Harada et al. discloses a pulse wave detecting apparatus. Harada et al.'s disclosure teaches the detection of pulse wave produced by an arterial vessel of a patient which indicates heart monitoring (col. 5, lines 5-15 and col. 6, lines 13-17), wherein the apparatus comprises a lens frame (figure 1 – reference 10) which

constitutes a pair of glasses; an array of pressure sensing elements (col. 5, lines 44-46), electrodes placed on the body which inherently determines the user heart rate; as well as inherently teaches a PW probe of the wrist of a user (col. 9, lines 4-5). However, Harada et al. fails to specifically disclose a plurality of lighting emitting diodes on the glasses, a plurality of photosensors on the glasses, a receiver and a power source (all the preceding element, hereinafter, are referred to as "monitoring components"). The examiner maintains that such monitoring components were well known in the art.

Regarding the monitoring component, in a similar field of monitoring/measuring heart functions, Lewyn discloses a measurement having pole zero cancellation. Lewyn's disclosure comprises the use of a pulse (LED) light emitting diode and a photodiode, a power supply and (figure 1).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada et al. by providing such monitoring components, wherein a plurality of LEDs replace the array of pressure sensor along with a plurality of photodiodes to define/represent photosensors for transmitting light pulses and for receiving light pulses reflecting from the surface of the users body (temple), and wherein the power supply further enables adequate functions of the glasses for monitoring and/or measuring a users heart conditions.

Further, Vogt et al. discloses that such monitoring components such as power supply and receiver are found on or in the structure of a pair of glasses (figures 1-2, abstract, abstract, and col. 54-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada et al. and Lewyn combined by incorporating such monitoring components on a pair of glasses for the purpose of providing convenience to the user for monitoring his or her heart conditions under particular circumstances and/or activities, wherein the receiver provides the capability of capturing the sensed signals for the photosensors for indicating the sensed measurement of the user's heart.

Regarding **claims 12-13**, Harada discloses everything claimed as applied above (see claim 11). Lewyn discloses a display for indicating the sensed condition of the user (figure 1-reference 30 and col. 5, lines 63-65).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by providing a display for indicating to the user sensed condition such as the pulse rate and heart rate.

Regarding **claim 15**, the sensor being connected to a watch is inherently taught (see claim 11) and as well, Harada discloses everything claimed as applied above (see claim 11). Lewyn further disclose sensing means in a digital wristwatch for monitoring heart rate and/or pulse rate of a user.

Regarding **claims 5 and 16**, it would have been obvious to one of the ordinary skill in the art at the invention was made to modify the invention of Harada by positioning a plurality of photosensors in plane offset from the LED for the purpose of receiving the reflections of the LEDs with adequate range to ensure efficient and timely reception of the light.

Regarding **claims 17-19**, the claimed limitations are rejected for the same reason set forth in the rejection of claims 3 and 4.

Regarding **claim 20**, it is well known in the art to use radio transmitter. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by incorporating a radio transmitter in the watch for transmitting a signal to a receiver, wherein this technique of using radio transmitters is well known in the art to transmit physiological signals such as a pulse rate.

7. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada in view of Reinhard et al. (U. S. Patent No. 4658831).

Regarding claim 21, Harada discloses everything claimed as applied above (see claim 11). However, Harada fails to disclose the receiver as a signal discriminator chip. The examiner maintains that such a chip was well known in the art.

Regarding the signal discriminator chip, in a similar field, Reinhard et al. discloses a discriminator as a modular chip (col. 10, lines 44-62), which constitutes a signal discriminator chip.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Harada by incorporating the signal discriminator chip as the receiver for the purpose of enabling efficient demodulation of the signal.

Regarding claims 10 and 23-25, Harada inherently teaches a button for input the user information and/o target conditions as well a way of indicating the relation (col. 11, lines 37-67 and col. 12, lines 1-15 and 60-65).

Regarding **claim 22**, and **28-29**, they are interpreted and thus rejected for the same reasons set for the above in the rejection of **claims 1 and 11**. Since **claim 22, and 28-29** discloses a method which corresponds to the apparatus of **claims 1 and 11**, the method is obvious in that it simply provides the functionality for the structure found **claims 1 and 11**.

Allowable Subject Matter

9. **Claims 14, 26 and 27** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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872-9314 for regular communications and (703) 872-9314 for After Final
communications.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703) 305-
4700.

LAG *fw*
August 10, 2001



FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
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